IN THE CLAIMS:

Claim 1 (withdrawn/currently amended) A method according to claim 115, wherein the compound is a ~~of treating tumors or cancer in a human in need of such treatment, which comprises the steps of:~~

~~(a) administering to the human a transfer~~ compound which comprises a chemotherapeutic compound linked to a carrier compound by a bond or a bridging molecule, said carrier compound, bridging molecule or chemotherapeutic compound comprising the ~~a~~ pre-selected element; wherein the irradiating in step (b) disrupts ~~and then~~

~~(b) irradiating a selected region, in which tumorous or cancerous cells are located, with line emission x-rays of an energy selected to cause emission of Auger electrons from said pre-selected element in a dose effective to disrupt~~ the linkage to said chemotherapeutic compound and thereby ~~release~~ releases said chemotherapeutic compound in proximity to said cancerous cells.

Claim 2 (withdrawn) A method according to claim 1, wherein the transfer compound is substantially non-toxic.

Claim 3 (withdrawn) A method according to claim 1, wherein the transfer compound has an affinity for both normal and cancerous cells.

Claim 4 (withdrawn) A method according to claim 3, wherein the transfer compound is

substantially non-toxic.

Claim 5 (withdrawn) A method according to claim 1, wherein the transfer compound has a selective affinity for cancerous cells.

Claim 6 (withdrawn) A method according to claim 1, wherein the carrier compound is substantially non-toxic.

Claim 7 (withdrawn) A method according to claim 1, wherein the carrier compound has a selective affinity for cancerous cells.

Claim 8 (withdrawn) A method according to claim 7, wherein the carrier compound comprises a tumor receptor ligand.

Claim 9 (withdrawn) A method according to claim 1, wherein the carrier compound is a complex of a ligand and said pre-selected element.

Claim 10 (withdrawn) A method according to claim 9, wherein the ligand is selected from the group consisting of 10-(2-hydroxy-propyl)-1,4,7,10-tetraazacyclododecane-1,4,7-triacetic acid, diethylenetriamine pentaacetic acid or diethylenetriamine pentaacetic acid bismethylamide.

Claim 11 (withdrawn) A method according to claim 1, wherein the carrier compound is a

chelate.

Claim 12 (withdrawn) A method according to claim 11, wherein the chemotherapeutic compound is covalently linked to a reactive carboxyl group of the chelate.

Claim 13 (withdrawn) A method according to claim1, wherein the chemotherapeutic compound is a taxane.

Claim 14 (withdrawn) A method according to claim 13, wherein the taxane is paclitaxel.

Claim 15 (withdrawn) A method according to claim 13, wherein the taxane is a paclitaxel analog.

Claim 16 (withdrawn) A method according to claim 13, wherein the carrier compound is a gadolinium containing chelate.

Claim 17 (withdrawn) A method according to claim 13, wherein the carrier compound is a tumor receptor ligand comprising said pre-selected element.

Claim 18 (withdrawn) A method according to claim 1, wherein step (b) is performed on cells removed from the human.

Claim 19 (withdrawn) A method according to claim 18, wherein after step (b) is performed, the removed cells are returned to the human.

Claim 20 (withdrawn) A method according to claim 18, wherein after step (b) is performed, the removed cells are transplanted.

Claim 21 (withdrawn) A method according to claim 1, wherein step (a) and step (b) are performed on cells removed from the human.

Claim 22 (withdrawn) A method according to claim 21, wherein after step (b) is performed, the removed cells are returned to the human.

Claim 23 (withdrawn) A method according to claim 21, wherein after step (b) is performed, the removed cells are transplanted.

Claim 24 (withdrawn) A method according to claim 1, wherein the pre-selected element has an atomic number in the range of from 35 to 79.

Claim 25 (withdrawn) A method according to claim 24, wherein the pre-selected element is selected from the group consisting of Ru, I, Gd and Pt.

Claim 26 (withdrawn) A method according to claim 24, wherein the cancerous cells of the

human's body are superficial and the pre-selected element is Br.

Claim 27 (withdrawn) A method according to claim 1, wherein the transfer compound is selected to have a high rate of excretion by normal physiological processes.

Claim 28 (withdrawn) A method according to claim 1, wherein the transfer compound is selected for stability against dissociation of the pre-selected element during the time prior to substantially complete excretion or metabolism of the transfer compound.

Claim 29 (withdrawn) A method according to claim 1, wherein the carrier compound is selected to have a high rate of excretion by normal physiological processes.

Claim 30 (withdrawn) A method according to claim 1, wherein the carrier compound comprises said pre-selected element and the carrier compound is selected for stability against dissociation of the pre-selected element during the time prior to substantially complete excretion or metabolism of the carrier compound.

Claim 31 (withdrawn) A method according to claim 1, wherein an end window transmission x-ray tube producing bright line emission x-rays is used for irradiating.

Claim 32 (withdrawn) A method according to claim 31, wherein an e-beam generated in the x-ray tube is focused on a thin target having a thickness of up to about 40 μm, said target being

inside the tube and functions as part of the end window.

Claim 33 (withdrawn) A method according to claim 32, wherein the target and the e-beam energy are selected to provide substantially monochromatic line emission x-rays having an energy above and near the K-absorption edge of the pre-selected element.

Claim 34 (withdrawn) A method according to claim 33, wherein the thin target is selected from the group consisting of Mo, Ag, La, Sr and Tm.

Claim 35 (withdrawn) A method according to claim 32, wherein the target and the e-beam energy are selected to provide substantially monochromatic line emission x-rays having an energy above and near the L-absorption edge of the pre-selected element.

Claim 36 (withdrawn) A method according to claim 35, wherein the thin target is Rb.

Claim 37 (withdrawn) A method according to claim 1, wherein Auger electrons are released with a dose of at least about 10^6 Gy.

Claim 38 (withdrawn) A method according to claim 37, wherein the dose of at least about 10^6 Gy is released within a distance from the pre-selected element of up to about 10 angstroms.

Claim 39 (withdrawn) A method according to claim 1, wherein step (b) is repeated at least

once.

Claim 40 (withdrawn) A method according to claim 39, wherein Auger electrons are released during each repetition of step (b) with a dose of at least about 10^6 Gy.

Claim 41 (withdrawn) A method according to claim 40, wherein the dose of at least about 10^6 Gy is released within a distance from the element of the carrier compound of up to about 10 angstroms.

Claim 42 (withdrawn/currently amended) A method according to claim 115, wherein the compound is ~~of treating cancer in a human in need of such treatment, which comprises:~~

~~(a) administering to the human~~ a transfer compound which comprises a chemotherapeutic compound linked to a carrier compound by a bond or a bridging molecule, said carrier compound, bridging molecule or chemotherapeutic compound comprising a pre-selected element selected from the group consisting of Br, Ru, I, Gd and Pt; wherein the irradiating in step (b) disrupts ~~and then~~

~~(b) irradiating at least once, by means of an end window transmission x-ray tube, a selected region, in which cancerous cells are located, with line emission x-rays of an energy selected to cause emission of Auger electrons from said pre-selected element in a dose effective to disrupt~~ the linkage to said chemotherapeutic compound and thereby ~~release~~ releases said chemotherapeutic compound in proximity to said cancerous cells, said dose for each activation of said x-ray tube being at least about 10^6 Gy within a distance from the pre-

selected element of up to about 10 angstroms.

Claim 43 (withdrawn) A method according to claim 42, wherein the transfer compound is substantially non-toxic.

Claim 44 (withdrawn) A method according to claim 42, wherein the transfer compound has an affinity for both normal and cancerous cells.

Claim 45 (withdrawn) A method according to claim 44, wherein the transfer compound is substantially non-toxic.

Claim 46 (withdrawn) A method according to claim 42, wherein the transfer compound has a selective affinity for cancerous cells.

Claim 47 (withdrawn) A method according to claim 42, wherein the carrier compound is substantially non-toxic.

Claim 48 (withdrawn) A method according to claim 42, wherein the carrier compound has a selective affinity for cancerous cells.

Claim 49 (withdrawn) A method according to claim 48, wherein the carrier compound comprises a tumor receptor ligand.

Claim 50 (withdrawn) A method according to claim 42, wherein the carrier compound is a complex of a ligand and said pre-selected element.

Claim 51 (withdrawn) A method according to claim 50, wherein the ligand is selected from the group consisting of 10-(2-hydroxy-propyl)-1,4,7,10-tetraazacyclododecane-1,4,7-triacetic acid, diethylenetriamine pentaacetic acid or diethylenetriamine pentaacetic acid bismethylamide.

Claim 52 (withdrawn) A method according to claim 42, wherein the carrier compound is a chelate.

Claim 53 (withdrawn) A method according to claim 52, wherein the chemotherapeutic compound is covalently linked to a reactive carboxyl group of the chelate.

Claim 54 (withdrawn) A method according to claim 42, wherein the chemotherapeutic compound is a taxane.

Claim 55 (withdrawn) A method according to claim 54, wherein the taxane is paclitaxel.

Claim 56 (withdrawn) A method according to claim 54, wherein the taxane is a paclitaxel analog.

Claim 57 (withdrawn) A method according to claim 54, wherein the carrier is a gadolinium

containing chelate.

Claim 58 (withdrawn) A method according to claim 54, wherein the carrier compound is a tumor receptor ligand comprising said pre-selected element.

Claim 59 (withdrawn) A method according to claim 42, wherein the transfer compound is selected to have a high rate of excretion by normal physiological processes.

Claim 60 (withdrawn) A method according to claim 42, wherein the transfer compound is selected for stability against dissociation of the pre-selected element time prior to substantially complete excretion or metabolism of the transfer compound.

Claim 61 (withdrawn) A method according to claim 42, wherein the carrier compound is selected to have a high rate of excretion by normal physiological processes.

Claim 62 (withdrawn) A method according to claim 42, wherein the carrier compound comprises said pre-selected element and the carrier compound is selected for stability against dissociation of the pre-selected element during the time prior to substantially complete excretion or metabolism of the carrier compound.

Claim 63 (withdrawn) A method according to claim 42, wherein an e-beam generated in the x-ray tube is focused on a thin target having a thickness of up to about 40 μm, said target being

inside the tube and functions as part of the end window.

Claim 64 (withdrawn) A method according to claim 63, wherein the target and the e-beam energy are selected to provide substantially monochromatic line emission x-rays having an energy above and near the K-absorption edge of the pre-selected element.

Claim 65 (withdrawn) A method according to claim 64, wherein the thin target is selected from the group consisting of Sr, Ag, La, and Tm.

Claim 66 (withdrawn) A method according to claim 63, wherein the target and the e-beam energy are selected to provide substantially monochromatic line emission x-rays having an energy above and near the L-absorption edge of the pre-selected element.

Claim 67 (withdrawn) A method according to claim 66, wherein the thin target is Rb.

Claim 68 (withdrawn) The method of claim 1 further comprising providing a kit for carrying out the steps (a) and (b), wherein the kit comprises:

(1) an x-ray tube having a target comprising a selected metal, said tube being capable of emitting monochromatic line emission x-rays; and

(2) a transfer compound which comprises a chemotherapeutic compound linked to a carrier compound by a bond or a bridging molecule, said carrier compound, bridging molecule or chemotherapeutic compound comprising a selected element,

the selected metal of said target and the selected element of said transfer compound being selected together:

(a) for said metal of said target to emit line emission x-rays having an energy above and near the K-absorption edge or the L-absorption edge of the selected element of said transfer compound; and

(b) for said selected element of said transfer compound to release a dose of Auger electrons upon irradiation by said line emission x-rays.

Claim 69 (withdrawn) The method according to claim 68, wherein said x-ray tube is an end window transmission x-ray tube capable of emitting bright, line emission x-rays, said x-ray tube comprising an evacuated, elongated chamber having first and second ends, the first end being connected to a power supply, and within said chamber:

electron emitter means near the first end for generating a beam of electrons;

an end window transparent to x-rays at the second end, an inner portion of said end window comprising said target; and

means for focusing said electron beam on said target.

Claim 70 (withdrawn) The method according to claim 69, wherein the target has a thickness of up to about 40μm.

Claim 71 (withdrawn) The method according to claim 68, wherein the target is selected from the group consisting of Rb, Mo, Ag, La, Sr and Tm.

Claim 72 (withdrawn) The method according to claim 68, wherein the transfer compound is substantially non-toxic.

Claim 73 (withdrawn) The method according to claim 68, wherein the transfer compound has an affinity for both normal and cancerous cells.

Claim 74 (withdrawn) The method according to claim 73, wherein the transfer compound is substantially non-toxic.

Claim 75 (withdrawn) The method according to claim 68, wherein the transfer compound has a selective affinity for cancerous cells.

Claim 76 (withdrawn) The method according to claim 68, wherein the carrier compound is substantially non-toxic.

Claim 77 (withdrawn) The method according to claim 68, wherein the carrier compound has a selective affinity for cancerous cells.

Claim 78 (withdrawn) The method according to claim 77, wherein the carrier compound comprises a tumor receptor ligand.

Claim 79 (withdrawn) The method according to claim 68, wherein the carrier compound is a

complex of a ligand and said pre-selected element.

Claim 80 (withdrawn) The method according to claim 79, wherein the ligand is selected from the group consisting of 10-(2-hydroxy-propyl)-1,4,7,10-tetraazacyclododecane-1,4,7-triacetic acid, diethylenetriamine pentaacetic acid or diethylenetriamine pentaacetic acid bismethylamide.

Claim 81 (withdrawn) The method according to claim 68, wherein the carrier compound is a chelate.

Claim 82 (withdrawn) The method according to claim 81, wherein the chemotherapeutic compound is covalently linked to a reactive carboxyl group of the chelate.

Claim 83 (withdrawn) The method according to claim 68, wherein the chemotherapeutic compound is a taxane.

Claim 84 (withdrawn) The method according to claim 83, wherein the taxane is paclitaxel.

Claim 85 (withdrawn) The method according to claim 83, wherein the taxane is a paclitaxel analog.

Claim 86 (withdrawn) The method according to claim 83, wherein the carrier is a gadolinium containing chelate.

Claim 87 (withdrawn) The method according to claim 83, wherein the carrier compound is a tumor receptor ligand comprising said selected element.

Claim 88 (withdrawn) The method according to claim 68, wherein the selected element of the transfer compound has an atomic number in the range of from 35 to 79.

Claim 89 (withdrawn) The method according to claim 88, wherein the selected element of the transfer compound is selected from the group consisting of Br, Ru, I, Gd and Pt.

Claim 90 (withdrawn) The method according to claim 1, wherein the transfer compound A comprises:

the chemotherapeutic compound linked to the carrier compound by a bond or a bridging molecule, said carrier compound, bridging molecule or chemotherapeutic compound comprising the pre-selected element; said pre-selected element being capable, when irradiated with line emission x-rays having a selected energy, of emitting Auger electrons in a dose effective to disrupt the linkage to said chemotherapeutic compound.

Claim 91 (withdrawn) The method according to claim 90, wherein the transfer compound is substantially non-toxic.

Claim 92 (withdrawn) The method according to claim 90, wherein the transfer compound has an affinity for both normal and cancerous cells.

Claim 93 (withdrawn) The method according to claim 92, wherein the transfer compound is substantially non-toxic.

Claim 94 (withdrawn) The method according to claim 90, wherein the transfer compound has a selective affinity for cancerous cells.

Claim 95 (withdrawn) The method according to claim 90, wherein the carrier compound is substantially non-toxic.

Claim 96 (withdrawn) The method according to claim 90, wherein the carrier compound has a selective affinity for cancerous cells.

Claim 97 (withdrawn) The method according to claim 96, wherein the carrier compound comprises a tumor receptor ligand.

Claim 98 (withdrawn) The method according to claim 90, wherein the carrier compound is a complex of a ligand and said pre-selected element.

Claim 99 (withdrawn) The method according to claim 98, wherein the ligand is selected from the group consisting of 10-(2-hydroxy-propyl)-1,4,7,10-tetraazacyclododecane-1,4,7-triacetic acid, diethylenetriamine pentaacetic acid or diethylenetriamine pentaacetic acid bismethylamide.

Claim 100 (withdrawn) The method according to claim 90, wherein the carrier compound is a chelate.

Claim 101 (withdrawn) The method according to claim 100, wherein the chemotherapeutic compound is covalently linked to a reactive carboxyl group of the chelate.

Claim 102 (withdrawn) The method according to claim 90, wherein the chemotherapeutic compound is a taxane.

Claim 103 (withdrawn) The method according to claim 102, wherein the taxane is paclitaxel.

Claim 104 (withdrawn) The method according to claim 102, wherein the taxane is a paclitaxel analog.

Claim 105 (withdrawn) The method according to claim 102, wherein the carrier compound is a gadolinium containing chelate.

Claim 106 (withdrawn) The method according to claim 102, wherein the carrier compound is a tumor receptor ligand comprising said pre-selected element.

Claim 107 (withdrawn) The method according to claim 90, wherein the pre-selected element has an atomic number in the range of from 35 to 79.

Claim 108 (withdrawn) The method according to claim 107, wherein the pre-selected element is selected from the group consisting of Br, Ru, I, Gd and Pt.

Claim 109 (withdrawn) The method according to claim 90, wherein this transfer compound when administered has a high rate of excretion by normal physiological processes.

Claim 110 (withdrawn) The method according to claim 90, wherein the transfer compound when administered has stability against dissociation of the pre-selected element during the time prior to substantially complete excretion or metabolism of the transfer compound.

Claim 111 (withdrawn) The method according to claim 90, wherein the carrier compound, when released from the chemotherapeutic compound, has a high rate of excretion by normal physiological processes.

Claim 112 (withdrawn) The method according to claim 90, wherein the carrier compound comprises said pre-selected element and the carrier compound, when released from the chemotherapeutic compound, has stability against dissociation of the pre-selected element during the time prior to substantially complete excretion or metabolism of the carrier compound.

Claim 113 (withdrawn) The method according to claim 90, wherein said effective dose is a dose of at least about 10^6 Gy.

Claim 114 (withdrawn) The method according to claim 113, wherein said effective dose is a dose of at least about 10^6 Gy released within a distance from the pre-selected element of up to about 10 angstroms.

Claim 115 (currently amended) A method of treating tumors or cancer in a human in need of such treatment which comprises the steps of:

(a) administering to the human a compound comprising a pre-selected element; and then

(b) irradiating a selected region, in which tumorous or cancerous cells are located, with line emission x-rays of an energy selected to cause emission of Auger electrons from said pre-selected element in a dose effective to ~~disrupt~~ cause disruption of intracellular components of said ~~tumerous~~ tumorous or cancerous cells.

Claim 116 (original) A method according to claim 115, wherein said compound is rose bengal.

Claim 117 (original) A method according to claim 115, wherein said intracellular components are lysosomes.

Claim 118 (withdrawn) The method of claim 115, farther comprising providing a kit for carrying out the steps (a) and (b) wherein the kit comprises:

(1) an x-ray tube having a target comprising a selected metal, said tube being capable of emitting monochromatic line emission x-rays; and

(2) a chemotherapeutic compound comprising a selected element, the selected metal of

said target and the selected element of said compound being selected together:

(a) for said metal of said target to emit line emission x-ray having an energy above and near the K-absorption edge or the L-absorption edge of the selected element of said compound; and

(b) for said selected element of said compound to release a dose of Auger electrons upon irradiation by said line emission x-rays.

Claim 119 (withdrawn) The method according to claim 118, wherein said compound is rose bengal.

Claim 120 (withdrawn) The method according to claim 118, wherein said selected element is iodine.

Claim 121 (withdrawn) The method according to claim 120, wherein said target is lanthanum.